

Claims:

1-11. (canceled)

12. (currently amended) Polyvinyl alcohol gel comprises at least two polyvinyl alcohols of the types PVA1, PVA2 and PVA3 and a swelling agent, wherein the degrees of polymerisation DP of PVA1 and PVA3 are  $>1000$  and the degree of polymerisation DP of PVA2 is in the range of  $50\text{--}1000$  ~~100~~ and PVA1 and PVA2 are predominantly linear whereas PVA3 has a fraction of long-chain branchings.

13. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein the gel has a modulus of elasticity E and/or a strength sm in MPa is  $>5$  and ~~optionally~~ a stress-strain curve having a negative curvature over an interval within the range of 0-300% strain.

14. (previously presented) The polyvinyl alcohol gel according to claim 13, wherein the modulus of elasticity E and/or strength sm is  $>10$ .

15. (previously presented) The polyvinyl alcohol gel according to claim 14, wherein the modulus of elasticity E and/or strength sm is  $>15$ .

16. (previously presented) The polyvinyl alcohol gel according to claim 13, wherein the modulus of elasticity E and/or strength sm is  $>20$ .

17. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein the gel is obtained from a mixture of polyvinyl alcohol and swelling agent, wherein the viscosity of the mixture during forming is  $>10,000$  mPa.

18. (previously presented) A process for preparing the gel of claim 17, including extruding the mixture to obtain a gel formation.

19. (currently amended) The process according to claim 18, including storing the gel formation at a temperature above the freezing point, wherein a heat treatment is ~~optionally~~ carried out and/or a reduction in the water content takes place during the storage.

20. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

- a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is  $>95$ ;
- b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is  $<3$ ;
- c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-2}$ ; and
- d) PVA1, PVA2 and PVA3 ~~preferably~~ have an atactic conformation.

21. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

- a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is  $>98$ ;
- b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is  $<1$ ;
- c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-3}$ ; and
- d) PVA1, PVA2 and PVA3 ~~preferably~~ have an atactic conformation.

22. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

- a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole %

is >99;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is <0.5;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-4}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have a predominantly syndiotactic conformation.

23. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is >99.8;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is <0.2;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-6}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have a predominantly syndiotactic conformation.

24. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 1000$ ; and

b) PVA2 has a degree of polymerisation DP in the range of 50-1000.

25. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 2000$ ; and

b) PVA2 has a degree of polymerisation DP in the range of 60-500.

26. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 3000$ ;  
and

b) PVA2 has a degree of polymerisation  $DP$  in the range of 70-300.

27. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 5000$ ;  
and

b) PVA2 has a degree of polymerisation  $DP$  in the range of 75-200.

28. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 1-95;

b) the fraction of PVA3 relative to PVA in wt. % is in the range of 1-80; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 5-90.

29. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 2-90;

b) the fraction of PVA3 relative to PVA in wt. % is in the range of 2-60; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 7-95.

30. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 3-85;

b) the fraction of PVA3 relative to PVA in wt. % is in the

range of 3-50; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 10-80.

31-35. (cancelled)

36. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.01-3.

37. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.03-2.

38. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.05-1.5.

39. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein the gel is transparent and free of organic solvents.

40. (previously presented) A process according to claim 18, including preparing the gel into a biomedicine.

41. (previously presented) A process according to claim 18, including preparing the gel into an agriculture product.